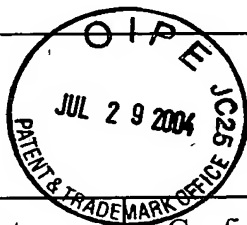


TRANSMITTAL OF FORMAL DRAWINGS

(In Response to Notice of Allowability)

Docket No. 00530056AA

In Re Application Of: Masuda et al.



Serial No: 10/069,547

Filing Date 07/16/2003

Confirmation No. 3227

Examiner V. Nguyen

Art Unit 2858

Invention: INTRINSICALLY SAFE EXPLOSION-PROOF SENSOR CIRCUIT

Address to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450In response to the NOTICE OF ALLOWABILITY mailed on 07/22/2004 attached please find:

(a) 1 replacement sheet(s) of formal drawing(s) for this application.

☒ Each sheet of drawing indicates the identifying indicia suggested in 37 CFR Section 1.84(c).

The Examiner has required a change to Figure 3. Please substitute this sheet 2 for the sheet 2 originally submitted.

(b) A copy of the NOTICE OF ALLOWABILITY.

Signature

Dated: July 28, 2004Michael E. Whitham
Reg. No. 32,635
Whitham, Curtis & Christofferson, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
(703) 787-9400
Customer Number 30743

I certify that this document and attached drawings are being deposited on _____ with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and addressed to the Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature of Person Mailing Correspondence_____
Typed or Printed Name of Person Mailing Correspondence



Notice of Allowability

Application No.

10/069,547

Examiner

Vincent Q Nguyen

Applicant(s)

MASUDA ET AL.

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1 and 3-5.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 7/15/2004.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Drawing (figure 3).

V. Nguyen 7/16/2004
Vincent Q. Nguyen
Patent Examiner
Art Unit 2858



Application Control Number: 10/069,547
Art Unit: 2858

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DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Michael E. Whitham on July 16, 2004.

2. The application has been amended as follows:
 - a. Cancel claim 2.
 - b. The abstract has been amended as follows:

ABSTRACT

Disclosed is an intrinsically safe sensor signal processing circuit, permitting lower cost installation and eliminating potential hazard. In the combination of a sensor which measures physical value as process variables in hazardous environment and a safety barrier which is mounted in non-hazardous environment, an intrinsically safe sensor signal processing circuit features ~~said~~ the safety barrier for case of mounting, wherein current limiting resistances are connected in series with a the sensor and these resistances are also connected to either an output or an inverting input of OP Amps that are considered as a driver or a feeder of a the sensor signal. ~~And/or said~~ The safety barrier can adopt blocking capacitors instead of said current limiting resistors.

c. The following changes to the drawings have been approved by the examiner and agreed upon by applicant:

Figure 3 is designated by a legend --Prior Art--

In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Allowable Subject Matter

3. Claims 1, 3-5 are allowed.
4. The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or suggest an intrinsically safe sensor signal processing circuit having a plurality of current limiting resistors located inside of the safety barrier, connected in series with the sensor; a first and second operational amplifiers located inside of the safety barrier, as a driver and feeder of the sensor signal, as recited in the independent claim 1; a plurality of blocking capacitors for current limiting located inside of the safety barrier, connected in series with the sensor; a first and second operational amplifiers located inside of the safety barrier, as a driver and feeder of the sensor signal, as recited in the independent claim 3, and in combination of the claims.

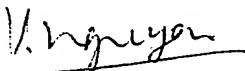
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



July 16, 2004

Vincent Q Nguyen
Patent Examiner
Art Unit 2858